

What is claimed is:

- 5 1. A hotmelt pressure sensitive adhesive comprising at least one polyacrylate component and an added filler comprising carbonate, said at least one polyacrylate component

 - is based, with a mass fraction of at least 50% by weight, on at least one acrylic and/or methacrylic ester of the general formula (I)

$$\text{CH}_2 = \text{CH}(\text{R}_1)(\text{COOR}_2) \quad (\text{I})$$

10 where $\text{R}_1 = \text{H}$ or CH_3 and R_2 is an unbranched, branched or cyclic alkyl radical having 1 to 22 carbon atoms and

— is substantially free from polar groups.
- 15 2. The adhesive as claimed in claim 1, **wherein** said at least one polyacrylate component has an average molar mass M_w of not more than 500 000 g/mol, in particular not more than 450 000 g/mol, especially not more than 400 000 g/mol.
- 20 3. The adhesive as claimed in claim 1 or 2, **wherein** the added filler comprising calcium carbonate is chalk.
4. The adhesive as claimed in any of the preceding claims, **wherein** the added filler comprising calcium carbonate has a mass fraction of at least 10%, in particular at least 15%, based on the polyacrylate component.
- 25 5. The adhesive as claimed in any of the preceding claims, exhibiting a shrinkback after extrusion coating of not more than 5%, in particular not more than 4%, especially not more than 3%.
- 30 6. The adhesive as claimed in any of the preceding claims, **wherein** said at least one polyacrylate component is substantially free of carboxyl or hydroxyl groups.
7. The adhesive as claimed in any of the preceding claims, **wherein** the group R_2 of the general formula (I) is selected from the group consisting of unbranched, branched, and cyclic C_4 to C_{14} alkyl radicals, especially C_4 to C_9 alkyl radicals.

8. The adhesive as claimed in any of the preceding claims, **wherein** the group R_2 of the general formula (I) is selected from the group consisting of bridged or unbridged, alkylated or unalkylated cycloalkyl radicals having at least 6 carbon atoms.
- 5 9. The adhesive as claimed in either of claims 7 or 8, **wherein** the at least one acrylic and/or methacrylic ester of the general formula (I) is selected from the following group, consisting of methyl acrylate, methyl methacrylate, ethyl acrylate, n-butyl acrylate, n-butyl methacrylate, n-pentyl acrylate, n-hexyl acrylate, n-heptyl acrylate, n-octyl acrylate, n-octyl methacrylate, n-nonyl acrylate, lauryl acrylate, stearyl acrylate, behenyl acrylate, isobutyl acrylate, 2-ethylhexyl acrylate, 2-ethylhexyl methacrylate, isooctyl acrylate, isooctyl methacrylate, cyclohexyl methacrylate, isobornyl acrylate, isobornyl methacrylate, and 3,5-dimethyladamantyl acrylate.
- 10 10. The adhesive as claimed in any of the preceding claims, **wherein** said at least one polyacrylate component is based on at least one comonomer as well as on said at least one acrylic and/or methacrylic ester.
- 15 11. The adhesive as claimed in claim 10, **wherein** the at least one comonomer is a compound selected from the group of the N-alkyl-substituted amides, especially from the group containing N,N-dimethylacrylamide, N,N-dimethylmethacrylamide, N-tert-butylacrylamide, N-vinylpyrrolidone, N-vinyl lactam, dimethylaminoethyl acrylate, dimethylaminoethyl methacrylate, diethylaminoethyl acrylate, diethylaminoethyl methacrylate, N-(butoxymethyl)methacrylamide, N-(ethoxymethyl)acrylamide, and N-isopropylacrylamide.
- 20 25 12. The adhesive as claimed in either of claims 10 and 11, **wherein** the at least one comonomer is a compound selected from the group containing maleic anhydride, itaconic anhydride, glyceridyl methacrylate, phenoxyethyl acrylate, phenoxyethyl methacrylate, 2-butoxyethyl acrylate, 2-butoxyethyl methacrylate, cyanoethyl acrylate, cyanoethyl methacrylate, glyceryl methacrylate, and tetrahydrofurfuryl acrylate.
- 30 13. The adhesive as claimed in claim 10 or 11, **wherein** the at least one comonomer is a compound selected from the group containing vinyl esters, vinyl ethers, vinyl halides, vinylidene halides, vinyl compounds having aromatic rings or heterocycles in

α -position, especially containing vinyl acetate, vinyl formamide, vinyl pyridine, ethyl vinyl ether, vinyl chloride, vinylidene chloride, and acrylonitrile.

- 5 14. The adhesive as claimed in claim 10 or 11, **wherein** the at least one comonomer is a photoinitiator having a copolymerizable double bond, especially Norrish I or Norrish II photoinitiators, benzoin acrylates or acrylated benzophenones.
- 10 15. The adhesive as claimed in any of the preceding claims 10 to 14, **wherein** at least one further component having a high static glass transition temperature is added to the at least one comonomer, in particular an aromatic vinyl compound, preferably a C₄ to C₁₈ aromatic or heteroaromatic.
- 15 16. The adhesive as claimed in any of the preceding claims, which is admixed with at least one resin component in particular from the group containing pinene resins, indene resins, and rosins, or their derivatives or salts; aliphatic, aromatic or alkylaromatic hydrocarbon resins, especially C₅ to C₉ hydrocarbon resins; hydrogenated hydrocarbon resins; substituted or unsubstituted hydrocarbon resins, natural resins, terpene resins, and terpene-phenolic resins.
- 20 17. The adhesive as claimed in any of the preceding claims, to which further additives are added, especially plasticizers, nucleators, expandants, compounding agents, aging inhibitors, crosslinkers and/or promoters.
- 25 18. A process for preparing a hotmelt pressure sensitive adhesive as claimed in any of claims 1 to 17, where
 - (a) at least one polyacrylate component is prepared by at least partial polymerization of at least one acrylic and/or methacrylic ester of the general formula (I)

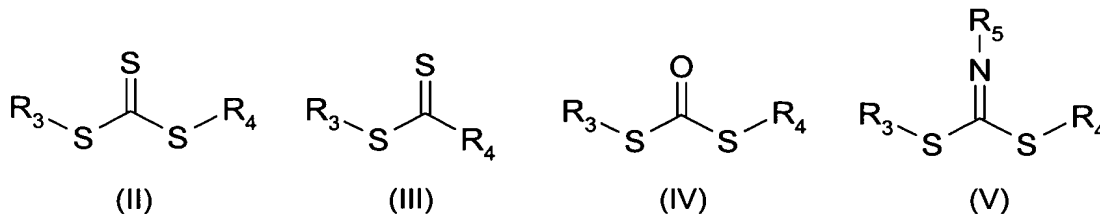
$$\text{CH}_2 = \text{CH}(\text{R}_1)(\text{COOR}_2) \quad (\text{I})$$

30 where R₁ is H or CH₃ and R₂ is an unbranched, branched or cyclic C₁ to C₂₂ alkyl radical, in the presence where appropriate of at least one comonomer, and

 - (b) before or after the copolymerization a filler comprising calcium carbonate is admixed.

19. The process as claimed in claim 18, **wherein** the polymerization is conducted in solution or without solvent.

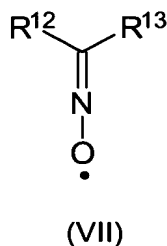
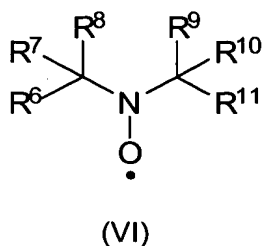
20. The process as claimed in claim 18 or 19, **wherein** the polymerization is conducted in the presence of at least one control reagent of the general formula (II), (III), (IV) and/or (V)



in which R₃, R₄, and R₅ independently of one another or identically are chosen from

- branched and unbranched C₁ to C₁₈ alkyl radicals; C₃ to C₁₈ alkenyl radicals; C₃ to C₁₈ alkynyl radicals;
- C₁ to C₁₈ alkoxy radicals;
- C₃ to C₁₈ alkynyl radicals; C₃ to C₁₈ alkenyl radicals; C₁ to C₁₈ alkyl radicals substituted by at least one OH group or a halogen atom or a silyl ether;
- C₂-C₁₈ heteroalkyl radicals having at least one O atom and/or one NR* group in the carbon chain, R* being any radical (particularly an organic radical);
- C₃-C₁₈ alkynyl radicals, C₃-C₁₈ alkenyl radicals, C₁-C₁₈ alkyl radicals substituted by at least one ester group, amine group, carbonate group, cyano group, isocyano group and/or epoxy group and/or by sulfur;
- C₃-C₁₂ cycloalkyl radicals;
- C₆-C₁₈ aryl or benzyl radicals;
- hydrogen.

21. The process as claimed in claim 18 or 19, **wherein** the polymerization is conducted in the presence of at least one control reagent of the general formula (VI) and/or (VII)



where R^6 , R^7 , R^8 , R^9 , R^{10} , R^{11} , R^{12} , and R^{13} independently of one another denote the following compounds or atoms:

- i) halides, such as chlorine, bromine or iodine, for example
- ii) linear, branched, cyclic, and heterocyclic heterocarbons having 1 to 20 carbon atoms, which may be saturated, unsaturated or aromatic,
- iii) esters $-\text{COOR}^{14}$, alkoxides $-\text{OR}^{15}$ and/or phosphonates $-\text{PO}(\text{OR}^{16})_2$, where R^{14} , R^{15} or R^{16} stand for radicals from group ii).

22. The use of a hotmelt pressure sensitive adhesive as claimed in any of claims 1 to 17 for producing a pressure sensitive adhesive tape comprising a backing material which is impregnated by a flame retardant and coated on one or both sides with said adhesive.

23. The use as claimed in claim 11, **wherein** the backing material used is a nonwoven, in particular a PET nonwoven, a woven-nonwoven composite or a woven fabric.

24. The use as claimed in claim 22 or 23, **wherein** the backing material is coated with the hotmelt pressure sensitive adhesive from the melt by a hotmelt process, in particular by roll coating, in a melt die process or by extrusion coating.

25. The use as claimed in any of claims 22 to 24, **wherein** following its application to the backing material the hotmelt pressure sensitive adhesive is crosslinked, in particular with UV radiation and/or with electron beams and/or by means of other high-energy irradiation.